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CONTRIBUTION TO THE ETHNOBOTANY OF PADARIS OF DODA IN JAMMU & KASHMIR STATE, INDIA

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ABSTRACT

The article deals with the plants used by the Padaris – a hill community of Padar, bordering the States of Jammu & Kashmir and Himachal Pradesh. The inhabitants being cut off from the modern society for most part of the year due to lack of proper communication, have been dependent on vegetal resources. However, the age old traditional cultural pattern is being gradually modified due to the influence of neighbouring urban centres like Kishtwar in J & K and Pangi valley in Himachal Pradesh. Apart from the common uses of plants for food, fodder and medicine, this region is also known for witchcrafts using many plants. Ethnobotanical data on 68 species, 38 of which are used as food, 24 as ethnomedicinals and 6 in magico-religious lore are presented.

INTRODUCTION

The Northwest and Trans-Himalayan region of Jammu & Kashmir, is phytogeographically a very diverse terrain. There is a marked climatic change from subtropical in Jammu, to temperate in Kashmir and cold arid type in Ladakh. These climatic changes have brought about drastic changes in vegetation including total replacement of floristic elements in the transition zones. There is a strong influx of Euromediterranean and Sino-Tibetan taxa in these regions. A number of hill communities referred to as ethnic groups exist in this State. Notable among these are Gujjars, Bakerwals, Caddis, Dards, Padaris, Ladakhis and Indo-Tibetans. Inspite of the diverse natural wealth and ethnic background, very limited information is available on plant folklores and other ethnobotanical aspects of this region (Kachroo and Nahvi, 1976 ; Dar *et al.*, 1984 ; Vir *et al.*, 1984 ; Kaul *et al.*, 1985, 1990 ; Sharma and Singh, 1989 and Sharma *et al.*, 1989).

Hill communities of Padar are generally known as Padaris. They have lived in isolation for a long period and still possess unique totams and traditions. Illiteracy and superstitions are prevalent among Padaris. The region, even today, is not easily accessible due to lack of proper communication. Therefore, the Padaris are dependent mainly upon primitive agriculture and forest products for food, medicine and other things for their livelihood. The present paper embodies ethnobotanical information on 68 plant species used by the Padaris. Although some of the plants and their uses are previously described in the literature (Kirtikar and Basu, 1935 ; Wealth of India, 1948-1976 ; Dastur, 1992 ; Biswas, 1956 ; Chopra *et al.*, 1956, 1969 ; Jain, 1975 ; Tanaka, 1976 and Singh and Arora, 1978), the mode of administration and uses mentioned herein are different.

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GEO-CLIMATE OF THE STUDY AREA

Padar is situated in Northeast of Kishtwar on the bank of river Chenab (also known as Chandra Bagha) lying between 33°3′ to 33°35′N latitude and 75°54′ to 76°47′E longitude (*see* Map). It is bordered in the North by Ladakh (Zanskar) and on the East by district Chamba of Himachal Pradesh. The area is amidst mountains with dense forests, hot water springs and sapphire mines. The mean elevation of the region ranges from 1,950 to 4,500 m above MSL. The area is not easily accessible and the only trekkable route is by the side of river Chenab. The climate of Padar is very severe and there is heavy snowfall during the winter months, i.e. December to March. The district as such receives an annual rainfall of 1,049.3 mm.

There is a marked decrease in the temperature gradient with increase in altitude and several vegetation formations integrate continuously with broad overlaps. At lower elevation i.e. 1,950 to 2,500 m there is an overlapping of hemisclerophyllous broad leaf forests, dominated by Oaks (*Quercus* spp.) and the needle leaf forests, dominated by *Cedrus deodara, Abies pindrow* and *Pinus gerardiana*. In the higher elevations the dominant conifers are *Pinus wallichiana, Taxus baccata* and broad leaved trees of *Aesculus indica, Acer caesium* and *Juglans regia.* Minor forest products like *Jurinea macrocephala, Atropa acuminata, Dioscorea deltoidea* and *Saussurea costus* are extracted by the forest agencies.

METHODOLOGY ADOPTED

The area was surveyed for two years from 1983-1984 following the procedure as described by Jain 1967 and Trotter 1981. However, during field work, personal interviews were conducted with chieftains of different villages individually, as well as in general get togethers for information on food habits, processing and preservation techniques, herbal medicines, home remedies and religious beliefs about plants. Information was also collected from knowledgeable persons, herbal doctors, and other elders. Repeated queries were made to get the data confirmed. The informants were also requested to accompany the authors to the forests to collect the useful plants from the wild state. The plants were collected for identification. The edible plant parts were brought to laboratory for nutritional evaluation. The nutritional value of wild edibles is not dealt here, but the interested readers may refer to Katiyar *et al.*, 1985 and 1987. The plant specimens were identified at Botanical Survey of India, Dehra Dun and at Forest Research Institute, Dehra Dun. They are deposited in the Herbarium of Regional Research Laboratory (Branch), Srinagar.

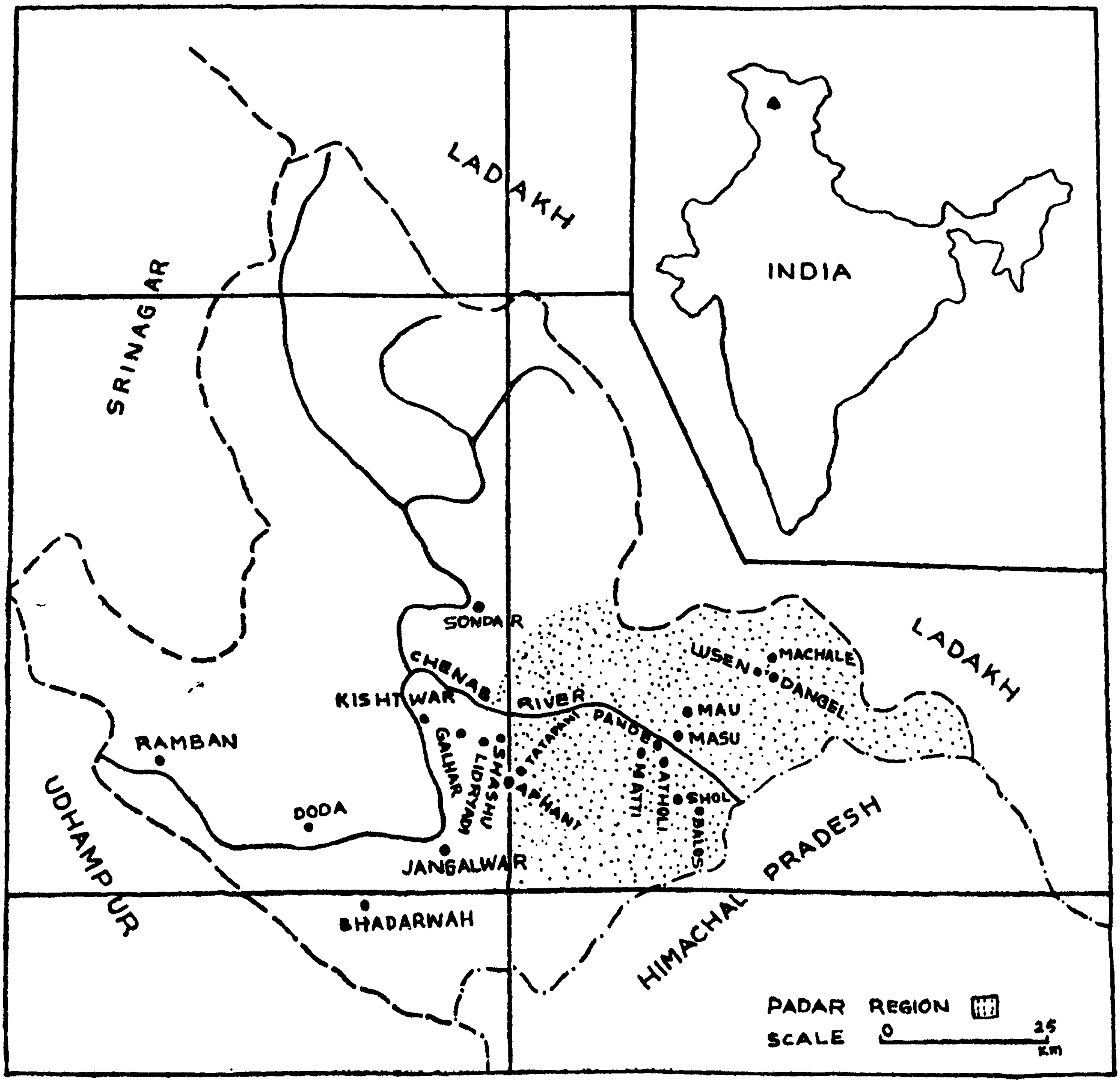
ETHNOBOTANICAL OBSERVATIONS

Ethnobotanical information of 68 plant species have been documented. Out of these, 38 species are identified as edible, 24 as medicinal and 6 species used for witchcrafts and magico-religious purposes. Among edible plants, 15 are traditionally exploited as greens (edible leaves/young shoots); 12 as underground edible parts; 5 as cultivated millets, legumes etc.; 6 for edible flowers and fruits. The growing period of wild edible plants extends from May to September. Padaris collect them during these months, dry and store them for consumption during winter. Among the cultivated plants, the millets and legumes are traditionally grown by the Padaris. Most of the people take bread made out of *Eleusine corocana.* It was interesting to learn that some of the local people have not even seen rice or wheat throughout their life time. Guests are served with pudding made out of the grains of *Setaria italica.* On auspicious occasions and religious ceremonies the bread and pudding made out of *Fagopyrum* grains and seeds of

Chenopodium album respectively are commonly used.

Plants used as edible greens : Wild leafy greens form the main chunk of vegetables used by Padaris (Table 1). The commonly used vegetables include *Allium victorialis, Dipsacus inermis* var. *mitis, Eremurus himalaicus, Malva parviflora* and *Tragopogon pratense.* The leaves of *Althaea officinalis, Chenopodium blitum, Dipsacus inermis* var. *mitis* and *Plantago lanceolata* are cooked as vegetable only after removing the toxicity. In general, the toxicity of all the wild vegetables is removed by extracting them with water.

Plants with edible underground parts : The wild underground parts include roots, bulbs, corms, rhizomes and tubers. Some are taken afresh and others rendered edible only after repeated extraction with water.



Map showing the Padar region in Jammu & Kashmir State, India.

Table 1 : Plants used as edible greens in Padar

Botanical name with family	Voucher number	Vernacular name	Remarks
Allium victorialis L. (Alliaceae)	RRL 457	Jangli-rohna	Fresh leaves used as vegetable
Althaea officinalis L. (Malvaceae)	RRL 403	Saza	Leaves cooked as vegetable after processing
Capsella bursa-pastoris Moench (Brassicaceae)	RRL 104	Kralamund	Young shoots used as vegetable
Chenopodium blitum Hk.f. (Chenopodiaceae)	RRL 17	Tulal	Leaves cooked as vegetable after processing
Dipsacus inermis var. *mitis* (D. Don) (Dipsacaceae) Y. Nasir	RRL 438	Wopal	Leaves cooked as vegetable after processing
Eremurus himalaicus Baker (Liliaceae)	RRL 409	Kohal	Common vegetable of Padar. Leaves used either afresh or after drying
Impatiens roylei Walp. (Balsaminaceae)	RRL 490	Halu	Leaves used as scarcity food
Malva parviflora L. (Malvaceae)	RRL 106	Sochel	Fresh leaves cooked as vegetable
Medicago hispida Gaertn. (Papilionaceae)	RRL 255	Shitala	Leaves used as scarcity food
Nymphoides peltata (Gmelin) Kuntze (Menyanthaceae)	RRL 415	Khor	Leaves used as scarcity food
Oenanthe javanica (Bl.) DC. (Apiaceae)	RRL 116	Nali	Young leaves cooked as vegetable
Paeonia emodi Wall. (Ranunculaceae)	RRL 1141	Mid	Young leaves used as scarcity food
Plantago lanceolata L. (Plantaginaceae)	RRL 418	Gula	Leaves cooked as vegetable
Polygonum aviculare (Polygonaceae)	RRL 352	Drube	Leaves cooked afresh
Tragopogon pratense L. (Asteraceae)	RRL 947	Dudthouli	Leaves and shoots used as vegetable

The winter corms of *Sagittaria trifolia* are collected when they are dormant. The bulbs of *Tulipa stellata* and corms of *Arisaema wallichianum* are used as scarcity food. As such, these species are toxic but are used only after removing the toxicity. For example, the corms of *Arisaema* are first kept in water for about a week. After that they are boiled in fresh water containing some leaves of *Oxalis corniculata*. It is said, that, the leaves of *Oxalis* helps in detoxification. Details of other plants with edible underground parts are listed in Table 2.

Plants with edible fruits : A number of fruits collected from the forests are consumed by the Padaris. Important among them are listed in Table 3. The fruiting body of *Ramaria flava* is relished more than meat. This mushroom is common in Padar and also sold in the local market.

Common ethnomedicinals : Herbal treatment of diseases is prevalent in Padar. Local doctors known as Hakims and Vaids are the respectable persons of the community. The various plants prescribed by these doctors for curing different diseases are mentioned in

Table 2 : Plants with edible underground parts used by the Padaris

Botanical name with family	Voucher number	Vernacular name	Remarks
Allium rubellum M. Bieb. (Alliaceae)	RRL 413	Jangli-piaz	Bulbs used raw or after cooking, substitute for onion
Althaea Officinalis L. (Malvaceae)	RRL 403	Saza	Roots edible after processing
Arisaema wallichianum Hk. f. (Araceae)	RRL 483	Supakhri	Corms used as scarcity food, but after thorough processing
Bunium persicum (Boiss.) Fedtsch. (Apiaceae)	RRL 923	Zeu	Fresh tubers are edible
Codonopsis ovata Benth. (Campanulaceae)	RRL 467	Chambeli	Powder of roots used in puddings
Gagea persica Boiss. (Liliaceae)	RRL 912	Paneej	Bulbs used raw or after cooking
Polygonatum multiflorum All. (Liliaceae)	RRL 471	Salem-misri	Roots edible
P. verticillatum All. (Liliaceae)	RRL 486	Salem-dhana	Roots edible
Sagittaria trifolia L. (Alismataceae)	RRL 356	Keu	Winter corms edible after processing
Sium latijugum L. (Apiaceae)	RRL 416	Trank	Rootlets edible
Tulipa stellata Hk.f. (Liliaceae)	RRL 914	Mundi	Bulbs used as scarcity food after processing
Typha angustata Bory & Chaub. (Typhaceae)	RRL 526	Pitz	Young rhizomes edible

Table 3 : Plants with edible flowers/fruits/seeds used by the Padaris

Botanical name with family	Voucher number	Vernacular name	Remarks
Chenopodium album L. (Chenopodiaceae)	RRL 450	Bajarbung	Cultivated ; seed flour used on auspicious occasions
Cotoneaster microphyllus Wall. ex Lindl. (Rosaceae)	RRL 436	Brankel	Black, ripe fruits edible
Fagopyrum tataricum (L.) Gaertn. (Polygonaceae)	RRL 401	Kaubdu	Cultivated ; roasted grains used for bread making
Glycine max (L.) Merr. (Papilionaceae)	RRL 522	Mash	Cultivated ; seeds of black cultivar used as pulse
Momordica tuberosa (Roxb.) Cogn. (Cucurbitaceae)	RRL 506	Ban-kakri	Fruits taken afresh or after cooking
Panicum miliare Lamk. (Poaceae)	RRL 516	Pingo	Rarely cultivated ; grains delicious and used on auspicious occasions
Prunus domestica L. (Rosaceae)	RLR 109	Sari	Fruits taken afresh or pickled when unripe
Ramaria flava Schaeff. (Clavariaceae)	RRL 494	Sirdi	Fruiting body of this mushroom is highly relished as vegetable
Rosa macrophylla Lindl. (Rosaceae)	RRL 492	Gulab	Dried flowers edible
Setaria verticillata (L.) Beauv. (Poaceae)	RRL 349	Ani	Cultivated ; grains cooked like rice after removing husk
Viburnum nervosum D.Don (Caprifoliaceae)	RRL 462	Khater	Reddish fruits considered to be nutritive.

Table 4. The most common ailments of the locals are blood dysentery, diarrhoea, high fever, skin infections and cough. Some common herbs recommended against dysentery are : *Achyranthes aspera, Mentha longifolia, Oxalis corniculata* and *Polystichum aculeatum*. The aromatic leaves of *Skimmia laureola* are reported to be effective against diarrhoea. The hot water extracts of herbs like *Artemisia japonica, Merrubium vulgare* and *Urtica dioica* are reported to remove skin infections. The use of *Equisetum arvense* for relieving urinary irritations is noteworthy. It is also used to control sugar content in blood and urine of diabetics and also mixed with rhizomes of *Bergenia ligulata* to reduce extra bleeding problems in ladies.

Totems based on herbs and shrubs : Padaris generally believe that diseases are due to some evil spell of bad spirits and that it can be counteracted by performing various totems or witchcrafts. Mostly ladies are reported to practise it. It is said that the fresh leaves of *Skimmia laureola* are pet to Lord Shiva and keeping them in house is considered to be a good women. Similarly, the roots of *Aconitum heterophyllum, Jurinea macrocephala* and *Saussurea costus*

Table 4 : Common ethnomedicinal plants used by the Padaris

Botanical name with family	Voucher number	Vernacular name	Remarks
Achyranthes aspera L. (Amaranthaceae)	RRL 460	Putha-Kanda	Seeds used in diarrhoea
Artemisia japonica Thumb. (Asteraceae)	RRL 428	Zico	Aerial parts used in skin infection
Chenopodium ambrosioides L. (Chenopodiaceae)	RRL 436	Jangli-javind	Seeds used in stomach pain
Convolvulus arvensis L. (Convolvulaceae)	RRL 425	Harangi	Shoots used as a purgative
Daphne oleoides L. (Thymelaeceae)	RRL 724	Kaoshadi	Leaves help in ripening of boils
Equisetum arvensis L. (Equisetaceae)	RRL 405	Sahet-bund	Young shoots are used in urinary irritation and diabetes
Erigeron bonariensis L. (Asteraceae)	RRL 1091	Shasherda	Young shoots relieve heart burning sensation
Fragaria vesca L. (Rosaceae)	RRL 399	Buans	Chopped leaves cure burns
Marrubium vulgare L. (Lamiaceae)	RRL 1118	Parasiym	Leaf sap used to cure skin infection and irritation in eyes
Mentha longifolia (L). Huds. (Lamiaceae)	RRL 43	Jangli-pudina	Root extract in water is given in dysentery
Oxalis corniculata L. (Oxalidaceae)	RRL 40	Khati-buti	Chopped leaves mixed with egg albumen and given in dysentery
Plantago major L. (Plantaginaceae)	RRL 347	Isbagul	Seeds and leaves are given in fever and cough
Plectranthus rugosus Wall. ex Benth. (Lamiaceae)	RRL 1130	Thaper	Leaves are given in abdominal pain and for expulsion of round worms
Polygonatum multiflorum All. (Liliaceae)	RRL 471	Salem-misri	Root powder mixed with milk and given in "suzak" i.e. passing spermatozoa with urine
P. verticillatum All. (Liliaceae)	RRL 486	Salem-dhana	—do—
Polystichum aculeatum (L). Roth (Polypodiaceae)	RRL 427	Kakai	Young fronds processed and given in dysentery and diarrhoea
Rumex orientalis (Boiss.) Bernh. (Polygonaceae)	RRL 337	Bada-habul	Crushed leaves and roots used to heal wounds and boils
Salvia moorcroftiana Wall. ex Benth. (Lamiaceae)	RRL 114	Shramatus	Macerated roots applied on fore-head to relieve high fever

Table 4 : (Contd.)

Botanical name with family	Voucher number	Vernacular name	Remarks
Sambucus wightiana Wall. ex Wight & Arn. (Sambucaceae)	RRL 1171	Kown	Leaf extract cures skin infections. Also reported to be sprayed against crop diseases
Skimmia laureola Hk.f. (Rutaceae)	RRL 456	Shingli-mingal	Leaf extract in water cooked with rice and given in diarrhoea
Solanum xanthocarpum Schrad & Wendl. (Solanaceae)	RRL 420	Batkatel	Intake of flowers promote digestion
Urtica dioica L. (Urticaceae)	RRL 111	Shader	Water extract of leaves used in skin infections. Children are reported to be given bath with this extract
Verbena officinails L. (Verbenaceae)	RRL 430	—	Powder of leaves and young shoots mixed with sugar given in high fever
Zanthoxylum alatum Roxb. (Rutaceae)	RRL 453	Timru	Leaves and flower buds are given to cure cough

are also kept in houses and used to threat some ailments after performing 'mantras'. It is reported that the cattle eating poisonous grass *Stipa sibirica* (locally named 'Baru') is carried to a local wizard/witch who drives out poison from the body of the cattle by reciting some 'mantras'. Another grass called 'Kush' (*Eragrostis cynosuroides*) is considered to be a sacred one and used in magico-religious purposes.

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